Technical Review on Revised Appendix B
Feasibility Study
Rolling Knolls Landfill Superfund Site

CDM Smith reviewed the revised Appendix B for the Rolling Knolls FS received on July 24, 2018. The revised Appendix B addresses previous concerns. CDM Smith's previous comments are shown in black below. The evaluation of whether the comments are addressed are shown in blue below.

General Comments:

The calculation of the risk-based concentration (RBC) (1) focuses on just non-dioxin-like PCBs, the only analyte with a hazard index (HI) above 1 in the HHRA, and (2) uses the new HHRA Update exposure assumptions. This Appendix compares the 95% UCL residual soil concentration outside the proposed remediation area to both RBC and alternative remediation standard (ARS), as it did before, instead of regarding the ARS as a not-to-exceed value. Our understanding is that EPA has accepted this approach.

Acceptance of Specific Comments:

CDM Smith's comments on calculating Site-Specific RBCs for comparison to site concentrations

1. No explanation here about why they are using RBCs instead of the previously calculated (in Appendix A) ARS values. Possible reason: the ARS for PCBs in Appendix A was calculated based on cancer risk; no noncancer-based PCB ARS was calculated, and Appendix A Table 7 lacks any noncancer toxicity value for PCBs.

   This comment has been addressed. The revised Appendix B has RBCs based on HHRA Update and notes that EPC for PCBs outside remediation area is below both RBC and the ARS.

2. RBCs are based on adolescent trespasser scenario, noncancer effects only.
   - The EPCs and HIs used to calculate RBCs are drawn from the 2014 HHRA. Note that exposure assumptions for this receptor were recently updated (decreased exposure frequency from 143 to 84 days/yr), and HIs decreased. RBCs using the updated assumptions would be slightly higher than those shown in Appendix B.

     This comment has been addressed. Appendix B revised the RBCs to be based on the July 2018 HHRA Update.

   - Cancer risks were not considered in Appendix B because the HHRA showed that total cancer risks for adolescent trespasser were less than 10^{-4}.

3. Equation used to calculate RBCs is questionable
   - Includes a cumulative noncancer hazard index (HI) of 5 chemicals, stating these 5 chemicals account for 90% of the cumulative health hazard. Why these 5 chemicals (i.e., not the full 21 chemicals for which ARS were calculated, and these 5 chemicals do not all impact the same target organs)? Also, a comparison of post-remedy concentrations to the RBC later in Appendix B only focuses on PCBs – why not the other 4 chemicals?

- Otherwise the equation seems OK, if conservative (because it is basically assuming each chemical is responsible for the cumulative HI of 5.8, rather than each chemical's individual HI).

  This comment has been addressed. The RBC calculation is based on non-dioxin-like PCBs, the only analyte with a hazard index (HI) above 1, rather than a set of 5 chemicals.

4. Compares 95% UCL concentration (conservative estimate of the average concentration across the site post-remedy) to the RBC and ARS to conclude that proposed remediation will be protective of human health. This statistic is the type used in HHRA for the exposure point concentrations, but is the ARS supposed to be a not-to-exceed value?

   The revised Appendix B still compares the 95% UCL concentration to the RBC and ARS and stated that "Remediating the Selected Area is protective of the health of potential human receptors at the Site". The revised Appendix B also states that "Areas of Potential Concern" that contain PCB concentrations greater than 3 times the ARS of 5 mg/kg will be remediated. The site-specific ARSs are generally considered not-to-exceed value and remediating all contamination exceeding the ARSs is required to be protective of human health.

5. Their RBC for PCBs is based on "non-dioxin-like PCBs", but they use Aroclor data for comparison to the RBC. An RBC for Aroclors would be the same as the non-dioxin-like PCBs RBC, because it would be based on the same toxicity values; they should note this in Appendix B.

   The revised Appendix B states that "Evaluating total PCBs as the sum of Aroclors instead of evaluating only non-dioxin-like PCBs is more conservative from a human health risk perspective." CDM Smith considers the approach to be equivalent rather than "more conservative".